
APPENDIX H

COMMENT LETTERS ON THE DRAFT WEST HAY CREEK EIS AND RESPONSES TO THOSE LETTERS

Majestic

Petroleum Operations, LLC
P.O. Box 580 Story, WY 82842
(307)683-2755 FAX (307)683-3136

BUREAU OF LAND
MANAGEMENT
CASPER FIELD OFFICE

03 APR 10 AM 10: 53

April 7, 2003

Bureau of Land Management
Casper Field Office, Attn: Patricia Karbs
2987 Prospector Drive
Casper, WY 82604

Re: Comments on Draft EIS West Hay Creek - WYW151634

Dear Sirs:

The following comments apply to Chapter 4, Geology and Minerals, specifically the CBM reserves in the LBA Tract:

Majestic Petroleum is the current Operator of 10 CBM wells located in Section 18, T52N, R72W, 5 CBM wells located in Section 19, T52N, R72W, 3 CBM wells located in Section 17, T52N, R72W and 4 CBM wells located in Section 20, T52N, R72W. Majestic strongly disagrees with the estimated reserves and economic life listed on Page 4-6 of the EIS (54,800 mcf and 2.5 years). Majestic's wells in Section 18 have already produced an average of 74,114 mcf in over 4 years with many years of economic production remaining. Our wells in Section 19 have averaged 79,141 mcf in over 5 years. The wells in Sections 17 and 20 are only 10 months old, but have already averaged over 20,000 mcf per well.

Majestic's consulting Reservoir Engineering firm has estimated an average ultimate total recovery of nearly 125,000 mcf per well for the wells located in Sections 18 and 19 with economic lives as long as 20 years, but averaging 10 years. One well is projected to recover 328,000 mcf!

We ask the BLM to review your reserve and economic life estimates in light of the above listed data. We would be willing to share our consultant's analysis with the BLM to assist in the review and will be available to discuss these issues at your convenience. Given the fact that our gas leases pre-date the coal leases in most of this area, we feel that Majestic and our mineral owners should be compensated for any lost reserves we are unable to produce due to removal of the coal. We are also concerned about the potential loss of the leases on our deeper rights due to our inability to operate during mining operations.

Sincerely,



Michael R. Onstott
President

Response to Majestic Petroleum Operations, LLC. Letter

The BLM Wyoming State Office's Reservoir Management Group (RMG) prepared "Review of Coalbed Methane (CBM) Geology, Production and Economics, West Hay Creek LBA Draft Environmental Impact Statement" (November 2002). The purpose of the study was to evaluate the CBM reservoir, production and reserves in the coal seam(s) that would be mined within the LBA tract. The study was based primarily on production decline analyses from existing CBM wells and generalized volumetric analysis of the CBM reservoir. Study data and methodology are described in the original report.

At the time the study was prepared many of the CBM wells in the area lacked sufficient production for decline analysis so not all wells were used. RMG prepared a model decline analysis that included CBM wells located near or adjacent to the LBA tract, and some wells located farther west in adjacent sections in T. 52 N., R. 73 W. This analysis showed estimated average reserves of 132,000 mcf for a typical well and an average six-year economic well life (based on 40-acre spacing).

As requested in the comment letter from Majestic Petroleum Operations, LLC, RMG reviewed the reserve and economic life estimates in light of the data included in that letter. The values originally reported by RMG are reasonably comparable to the estimates provided by Majestic, which also included wells located some distance from the tract and active mining. RMG believes that, due to reservoir depletion, estimates that include decline analysis from wells not adjacent to the tract will probably overestimate the reserve volumes.

RMG's reservoir analyses show that mine dewatering has resulted in a "regional" lowering of the water table in the mined seam(s) and, consequently, a decline in hydrostatic pressure within the mined seam(s) near the mines. Where the hydrostatic pressure has declined sufficiently, CBM gas has been allowed to desorb from these coals and escape from the reservoir(s). As a result, the CBM reservoirs near the active mine are probably depleted relative to the original/undisturbed reservoir encountered farther west. Additionally, a more specific decline analysis by RMG, based solely on wells located in section 18, T. 52 N., R. 72 W., yielded estimated average reserves of approximately 54,800 mcf with a 2.5 year average economic well life. RMG considers these estimates to be the most representative of reserves within the LBA tract.

Additional CBM production might have been reported between the time that RMG prepared its estimates (November 2002) and the time that Majestic prepared its comments (April 2003), which could affect decline-based reserve estimates. It is also possible that some of the production cited in Majestic's comment letter could be from lower seams that will not be subject to mining. It is not possible to evaluate these factors and the necessity for adjustments, if any, without an extensive study of current data as well as the consultant's study. Due to existing time constraints, RMG did not undertake additional studies.

The EIS discloses the environmental and socioeconomic impacts of issuing leases for the federal coal in the LBA tract, including the presence of potentially affected private and federal oil and gas leases within the LBA tract (figure 3-15 and table 3-10 in chapter 3) and the existence of ancillary facilities to support oil and gas production. It identifies that, in order for the coal to be mined, oil and gas development must be curtailed, which would affect current CBM wells as well as the timing and potentially the feasibility of developing any remaining undrilled 40-acre spacing units. Appendix D lists the stipulations that are included on coal leases in the Powder River Basin, which includes stipulations addressing multiple mineral development and oil and gas/coal resources. The EIS also discusses BLM Instruction Memorandum No. 2003-253, which addresses BLM policy on conflicts between coal and CBM development. In accordance with this memorandum, royalty incentives can be offered to CBM operators who agree to accelerate production in order to recover the natural gas while simultaneously allowing uninterrupted coal mining operations. In addition, this memorandum also states that it is the policy of the BLM to encourage oil and gas and coal companies to resolve conflicts between themselves; and when requested, the BLM will assist in facilitating agreements between the companies.

It is our understanding that Triton Coal and Majestic currently own and cojointly produce gas in the West Hay Creek area. Both have developed a working relationship that will be essential to resolve any issues of CBM gas and coal removal within the West Hay Creek area. We also understand that proposals have been made by both companies to allow resolution of any joint production issues. Triton Coal has stated that they intend to allow immediate gas production from the area and has paid for infrastructure and access to allow this production.

Dean Varney

BUREAU OF LAND
MANAGEMENT
CASPER FIELD OFFICE

From: "Dean Varney"
To: "Patricia Karbs" <wymail@blm.gov>
Sent: Wednesday, April 09, 2003 5:12 PM
Subject: Coal Lease
April 10, 2003
Lena H. Tharp Varney
HC 67 Box 223
Lusk, Wy. 82225

03 APR 11 AM 10:55

Attn. Patricia Karbs at Casper

In response to the Draft for the West Hay Creek Coal Lease Application, I have a few comments and questions.

I own 40 acres of coal in Township 52 North - Range 72 West - 6 P.M. - Section 29 NW1/4, SE1/4. This has been leased to Triton Coal for a VERY long time.

WHY should Triton Coal be allowed to lease more coal rights when they have leases which they have not developed in earlier periods?

Can the "Powers that Be" explain to me WHY Triton is going around this acreage to lease Federal coal land from BLM? I have been unable to receive a competent answer from Triton.

Please refer this to SOMEONE who can respond.

Thank you very much.

Phone: 1-307-334-2182

Lena H. Tharp Varney
Mrs. Lena H. Tharp Varney

Response to Dean and Lena Varney Letter

In response to Mr. and Mrs. Varney's letter, Triton Coal Company representatives recently met with the Varney's and explained the mine plan for the Buckskin Mine. The 40-acre Varney coal lease is in an area of higher overburden ratio with adjacent geologic faulting. Buckskin's mine plan is to continue to follow the lower ratio coal outcrop to remain competitive with other PRB mines. Under Buckskin's current mining projections, they would likely mine a portion of the Varney lease in the next 10 years.



United States Department of the Interior
BUREAU OF LAND MANAGEMENT
CASPER FIELD OFFICE
NATIONAL PARK SERVICE
INTERMOUNTAIN REGION

MAY 19 AM 9:49

12795 West Alameda Parkway
PO Box 25287
Denver, Colorado 80225-0287



IN REPLY REFER TO:
DES-03/0019

Patricia Karbs
Bureau of Land Management
Casper Field Office
2987 Prospector Drive
Casper, WY 82604

May 14, 2003

RE: Subject: Comments on Bureau of Land Management's Draft Environmental Impact Statement for the West Hay Creek Coal Lease Application, Campbell County, Wyoming

Dear Ms. Karbs:

Thank you for the opportunity to review the Draft Environmental Impact Statement (DEIS) for the West Hay Creek Coal Lease Application. The National Park Service provides the following comments to you for your consideration. These comments reflect the concerns of a number of National Park units, particularly those located in the Midwest Region.

The pace of resource and other development in the Powder River Basin and elsewhere in the West has increased substantially. Several Midwest Region parks are located downwind of this development, including class I air quality areas at Wind Cave, Badlands, and Theodore Roosevelt National Parks.

We understand Wyoming will analyze the impacts of coal mining related to this lease area during the permitting process. We also understand these coal-mining operations, by themselves, may not have a pronounced impact on air quality in Midwest Region parks. However, the National Park Service has become increasingly concerned about the cumulative air quality impacts of the many individual air pollution sources on Federal, State, and private lands appearing upwind of these parks. While the incremental impacts of any given activity, such as the coal leases in question, may be negligible, the additive effects of many such activities may indeed be significant. We continue to be concerned by our reading of this analysis that appears to consider the number of current and reasonably foreseeable impacts to air quality as "limited."

We encourage the BLM, and by extension the State of Wyoming, to continue to consider the incremental air quality degradation that will be caused by these 39,400 new coal leases. But we encourage the BLM to also take a hard look at the cumulative impacts of these leases added to the activities associated with the existing 15 coal mines and the 12,000 operating and permitted coal bed methane (CBM) wells. We also encourage the consideration of other activities and facilities in the region (i.e., coal-fired generation plants) to which this additional degradation will be added. Again, we understand incremental impacts of mine development tend to be relatively minor, but the cumulative impacts from the likely outcome of

mining, increasing energy production, is the greatest threat to the class I air quality areas in the Midwest Region. We have great concerns over what we feel are existing and increasing impacts to our air quality resulting from energy development, and we will continue to monitor the development of these resources.

Specific Comments

Following are some specific comments with regards to the DEIS:

1. On page 3-17, the DEIS states, "Air quality conditions in rural areas are likely to be very good, as characterized by limited air pollution emission sources (few industrial facilities and residential emissions in the relatively small communities and isolated ranches) and good atmospheric dispersion conditions, resulting in relatively low air pollutant concentrations". The DEIS also states that there are 15 coal mines, 12,000 CBM wells that have been drilled or are permitted for drilling, and 39,400 proposed private, state, and federal CBM wells with associated ancillary facilities; however, these sources are not included in the above-definition of "limited air pollution emission sources". All existing and planned emission sources should be included the description of the existing environment, in which case, we do not feel that the area has limited air pollution emission sources or relatively low air pollutant concentrations. By not including all of the emission sources in the description of the current conditions, the document does not accurately portray the existing environment. Without an accurate portrayal of the current conditions, impacts to air quality including cumulative effects cannot be properly analyzed.
2. On page 3-13, the DEIS describes how the mountainous western topography is particularly important in channeling pollutants along valleys and blocking the flow of pollutants toward certain areas. The DEIS also states the topography of the area as being, "...primarily rolling plains and tablelands of moderate relief (with occasional valleys, canyons, and buttes)". We would like to point out that much of the project area is fairly flat with a topographic change in elevation of less than 240 feet (4100 to 4340 feet). As such, with few significant topographic features in the area, the emissions from the proposed project will move in the direction of the prevailing air currents, and will not be trapped by topography. We feel that the DEIS does not accurately identify the topographic nature of the area, and misrepresents the fact that the terrain will protect areas downwind from the potential effects of increased pollution emissions. Using the average annual wind speed documented in the DEIS at 10.3 mph, pollutants from the Powder River Basin will reach Wind Cave National Park in approximately 10-11 hours. This illustrates that the emissions from the proposed project and other projects in the area will have an almost immediate effect on the air quality at this park as well as nearby national park units. This is of great concern to the National Park Service.
3. On page 3-14-17, the DEIS states that WDEQ has an extensive network of air quality monitors throughout the state of Wyoming and the data from these monitors, "...are used to pro-actively arrest or reverse trends towards air quality problems." The DEIS then states on page 3-20, "The relatively flat trend in particulate emissions from 1980 through 1998 is due in large part to the Wyoming Air Quality Program that requires the best available control technology (BACT) at all permitted facilities." However, the data given throughout this analysis indicate, "Concentrations increased from 33.9 $\mu\text{g}/\text{m}^3$ in 1998 to 55.3 $\mu\text{g}/\text{m}^3$ in 1999 and continued to increase at a slightly slower pace in 2000. There were no major fires in the region during this time. The increases in coal production over those two years (2.3% per year and 13.9 mmtpy over the two-year period) and associated overburden production (9.5% per year and 135 mmbcy over the two-year period) were not larger than the two-year increases during some of the previous 18 years, but the particulate concentration increase was much larger than in previous years."

Given this, we feel that the data do not represent a "relatively flat trend" in particulate emissions from 1980 through 1998. According to these data, the TSP average ($\mu\text{g}/\text{m}^3$) was 33.0 with 1999 and 2000 averaging 55.7 $\mu\text{g}/\text{m}^3$. This represents a 68.8% increase in TSP. From 1989 to 1998 (10 years) PM10 averaged 15.4 $\mu\text{g}/\text{m}^3$. In 1999 and 2000, PM10 averaged 22.5 $\mu\text{g}/\text{m}^3$, an increase of 46.1%. If the data are used to "proactively arrest or reverse trends towards air quality problems", and these data show substantial increases, then how does WDEQ define what constitutes an air quality problem? The DEIS suggests that some of the best technology is in place for monitoring air quality in Wyoming which we support; however, the DEIS does not describe how these documented pollution increases have been addressed.

Again, we appreciate the opportunity to review the subject document and provide these comments. If you have any questions about these comments please contact Cheryl Eckhardt, Intermountain Regional Office, Planning and Compliance at 303-969-2851, or Nick Chevance, Midwest Regional Office, Planning and Compliance, 402-221-7286.

Sincerely,



Cheryl Eckhardt
NEPA/106 Specialist, IMRO

cc:

Nick Chevance, MWRO
Steve Cinnamon, MWRO
David Pohlman, MWRO
Dale Morlock, WASO
Linda Stoll, WICA
William Supernaugh, BADL
Sandy Dingman, BADL
Valerie Naylor, THRO
John Reber, IMRO
Chris Turk, IMRO

Response to USDI, National Park Service Letter

The West Hay Creek LBA EIS evaluates leasing the LBA tract as a maintenance lease to an existing coal mine, which plans to mine the coal at currently permitted rates using existing facilities. BLM has eight other pending maintenance coal lease applications, five of which were considered in the *Final South Powder River Basin Coal EIS*, which was released to the public in December 2003. The remaining two pending maintenance coal lease applications will be evaluated in future NEPA analyses. All of these federal coal tracts have been applied for by existing mines in the basin and, if they are leased, they would be mined by those existing mines. As a result they would represent continuations of, not additions to, ongoing mining activities at currently active coal mines in the Wyoming Powder River Basin (PRB). The *Final EIS and Proposed Plan Amendment for the Powder River Basin Oil and Gas Project*, which was completed in January 2003, analyzed the impacts of drilling 39,400 new CBM wells in the Wyoming PRB in addition to the 12,000 wells that were drilled or permitted when the EIS was prepared.

Coal production in the PRB has been steadily increasing since the 1970s in response to increasing demands for electrical power generation in the Midwest and elsewhere. BLM also has concerns about existing and increasing air quality impacts resulting from energy development in the PRB. In order to help us evaluate the potential impacts of future actions more effectively, the Wyoming BLM is currently starting work on a two-year technical study to assess current coal development, develop projections of expected future development, and develop data and modeled projections of the effects of projected surface coal mining in the Wyoming PRB for use in analyzing the impacts of leasing and mining the two remaining pending LBA tracts. Briefings on this study were held with state and federal agencies last fall. Please contact Mike Karbs with the BLM Casper Field Office for more information on this study.

Responses to Specific Comments

1. The referenced statement, which is found on page 3-21 of the FEIS, is a broad description of general air quality in rural areas of the PRB, where development and associated monitoring are not yet present. The areas where the surface coal mines are located and where most of the CBM development has occurred to date in the PRB are somewhat concentrated on the eastern flank of the PRB, where the coal is the shallowest and most accessible. There has been extensive air quality monitoring, specifically particulate and NO₂ emissions, in this area, which is discussed on pages 3-18 and 3-22 and shown in Figure 3-6 of the FEIS. The values presented as background concentrations in Table 3-2 of the EIS reflect the existing environment, including all of the existing emission sources, as determined by the monitoring data. The projected impacts of the proposed additional 39,400 CBM wells are addressed in the cumulative air quality section of Chapter 4.
2. The DEIS does describe the regional topography ("mountainous western United States"), the topography in the PRB ("primarily rolling plains and tablelands of

moderate relief (with occasional valleys, canyons and buttes), and the topography of the West Hay Creek LBA tract (“an area of elevated ridges broken by minor drainages with an elevation ranging from 4,100 to 4,340 feet” (DEIS page 3-13). The EIS does not describe the LBA tract as mountainous and does not state, in either the air quality section of Chapter 3 or of Chapter 4, that the terrain in the area of the LBA tract will protect areas downwind from the potential effects of increased pollution emissions. It does discuss, on pages 4-55 through 4-70 in the FEIS, the air quality impact analysis prepared for BLM by Argonne National Laboratory, for which air pollutant dispersion modeling was performed using the EPA CALPUFF and the CALMET models to quantify potential cumulative air quality impacts from existing and proposed development in the PRB. The existing development includes the coal mines and existing CBM wells; the proposed development includes the proposed 39,400 CBM wells. This modeling project evaluated potential impacts for the years when the overlapping impacts of oil and gas development, and coal and other development were estimated to be the greatest. The FEIS (pages 4-63 and 4-64) explains that meteorological information was assembled to characterize atmospheric transport and dispersion and that potential CO and NO_x emissions were analyzed by to predict potential far-field impacts at 29 mandatory federal PSD Class I and other sensitive areas in Wyoming, Montana, North and South Dakota, and Nebraska, including Wind Cave National Park; maximum predicted cumulative far-field impacts under the development that were predicted by this modeling are shown in table 4-9. The FEIS also discusses potential visibility impacts to Class I areas, including Wind Cave National Park, predicted by this modeling project (pages 4-65 through 4-69, tables 4-11 and 4-12). The statement describing the regional topography as mountainous has been removed from chapter 3 because it is more descriptive of the area included in the cumulative air quality impact analysis, discussed in the Cumulative Impact section of Chapter 4, than it is of the area of the West Hay Creek LBA tract.

3. In the EIS, the term “relatively flat trend” is used to describe the monitored particulate concentrations from 1980 through 1998 as compared to the increase in mining activity (i.e. coal produced and overburden moved) during that same time period. The term “relatively flat trend” is not used to describe the increase in particulate concentrations recorded by monitoring after 1998. The EIS describes the particulate concentration increase following 1998 as “much larger” than had occurred during the previous 18 years, although the increase in coal and overburden production was not comparably larger (FEIS page 3-24). In the FEIS, particulate control measures are discussed on pages 3-26, NO_x control measures are discussed on pages 3-28 and 3-29. Table 4-3 summarizes the required mitigation and monitoring measures. These measures are required by regulation and are considered to be part of the Proposed Actions and Alternatives 2 and 3. These requirements, mitigation plans, and monitoring plans are in place for the No Action Alternative, as part of the current approved mining and reclamation plan for the existing Buckskin Mine. If the West Hay Creek LBA tract is leased, these requirements, mitigation plans, and monitoring plans would be included in the mining and reclamation plan revision that would be required for the LBA tract if it is

leased. This mining and reclamation plan would have to be approved before mining could occur on the tract, regardless of who acquires the tract.

DAVE FREUDENTHAL
GOVERNOR



THE STATE

BUREAU OF LAND
MANAGEMENT
CASPER FIELD OFFICE
OF WYOMING

STATE CAPITOL
CHEYENNE, WY 82002

03 MAY 29 AM 10:19

Office of the Governor

May 27, 2003

Patricia Karbs
United States Department of the Interior
Bureau of Land Management
Casper Field Office
2987 Prospector Drive
Casper, Wyoming 82604

Re: West Hay Creek Coal Lease Application-DEIS
State Identifier Number: 2002-114

Dear Ms. Karbs:

This office has reviewed the referenced Draft Environmental Impact Statement on behalf of the State of Wyoming. This Office also distributed the referenced document to all affected state agencies for their review, in accordance with State Clearinghouse procedures. Attached are comments from the Wyoming Game and Fish Department and the Department of Environmental Quality.

At this time this office has no objection to the proposed action provided the attached state agency comments are duly considered.

Please continue to provide this office with either (3) three hard copies or electronic copy (submit to SPC@state.wy.us) of continued information for review and distribution to interested agencies. Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in cursive script that reads "Tracy J. Williams".

Tracy J. Williams
Policy Analyst

TJW
Enclosures: (2)

Wyoming Game and Fish Department
Department of Environmental Quality (air)

H-13

WYOMING
GAME AND FISH DEPARTMENT

Dave Froelich, Governor



Grant Manning, Director

BUREAU OF LAND
MANAGEMENT
CASPER FIELD OFFICE

"Conserving Wildlife - Serving People" 03 APR 25 AM 10:52

April 23, 2003

WER 320.02
Bureau of Land Management
Casper Field Office
Draft Environmental Impact Statement
West Hay Creek Coal Lease Application
Campbell County

Patricia Karbs
Bureau of Land Management
Casper Field Office
2987 Prospector Drive
Casper, WY 82604

Dear Ms. Karbs:

The staff of the Wyoming Game and Fish Department has reviewed the Draft Environmental Impact Statement for the West Hay Creek Coal Lease Application within the Casper Field Office area. We offer the following comments.

Terrestrial Considerations:

The Draft Environmental Impact Statement has adequately identified the terrestrial wildlife resources in the Affected Environment section, and has adequately disclosed the Environmental Consequences of the No Action and Action Alternatives.

Aquatic Considerations:

The Department finds this Draft Environmental Impact Statement (DEIS) generally lacking in adequate aquatic fauna information in order to assess potential impacts, except for one private reservoir. This may be due to a comment on page 3-55 that indicates fish surveys were not required during the baseline study by the Wyoming Game and Fish Department and Wyoming Department of Environmental Quality - Land Quality Division. We are not aware of comments from our agency that made this determination.

The Department does not have sufficient fish or amphibian data on the Hay Creek drainage to advise on potential impacts, but suggest that the applicant conduct such an inventory. Although Hay Creek may be ephemeral in certain reaches of the drainage, its importance to

03 APR 25 AM 10: 52

native fish species present in the Little Powder River needs to be assessed. On page 4-19, the DEIS states that increased erosion, sedimentation and possible channel diversion, as well as anticipated increases in coal bed methane water discharge (page 4-79) will occur. This statement suggests that these impacts could disrupt spatial and temporal native fish species distribution in Hay Creek and downstream to the Little Powder River. Maintaining connectivity where these species occur, even if only seasonally, as on ephemeral sections, could affect how these species use the Little Powder drainage for portions of their life cycle.

As noted, we do not have current fish species data on Hay Creek. However, Patton (1997) found several species in the Little Powder River at four sites surveyed, including flathead chub, fathead minnow, goldeye, longnose dace, sand shiner, western silvery minnow, stonecat, white sucker, carp, green sunfish, northern redhorse sucker, and plains minnow. All of these species except the carp and green sunfish are native to the drainage. The Department has categorized the western silvery minnow as a Status 1 species. Status 1 species are physically isolated and/or exist at extremely low densities throughout their range, and habitat conditions are declining or vulnerable. Therefore, the Department has been directed by the Commission to recommend that no loss of habitat function occur. Some modification of the habitat may occur, provided that habitat function is maintained (i.e. the location, essential features, and species supported are unchanged). The Department has categorized the goldeye as a Status 2 species. Status 2 species are populations that are physically isolated and/or exist at extremely low densities throughout their range, and habitat conditions appear to be stable. Presence of some of these species or seasonal use of Hay Creek due to its tributary connection to the Little Powder River might be expected. Therefore, Hay Creek should be assessed, and potential impacts addressed.

Finally, in Table 4-3, page 4-35, we recommend that mitigation stipulations be included for disturbance areas in the Hay Creek drainage for fish species once assessments are made. Mitigation measures that might be considered include 1) no net loss of stream channel habitat or water quality used by these species, 2) maintaining connectivity of the drainage with the Little Powder River, and 3) baseline and post mining (at a minimum) fish presence and distribution surveys in the monitoring plan. During fish species and habitat assessments, we recommend amphibian surveys be conducted as well, and all species and habitat data shared with the Wyoming Game and Fish Department.

Ms. Patricia Karbs
April 23, 2003
Page 3 – WER 320.02

BUREAU OF LAND
MANAGEMENT
CASPER FIELD OFFICE

03 APR 25 AM 10:52

Thank you for the opportunity to comment.

Sincerely,



BILL WICHES
DEPUTY DIRECTOR

BW:TC:as

cc: Julie Kozlowski-State Clearinghouse
USFWS

Literature Cited

Patton, Timothy M. 1997. Distribution and status of fishes in the Missouri River drainage in Wyoming: implications for identifying conservation areas. Doctoral dissertation in Zoology and Physiology, University of Wyoming, Laramie, WY. 173pp.

Response to Wyoming Game and Fish Department Letter

1. Wildlife monitoring for the Buckskin Mine is designed to meet WDEQ/LQD and federal requirements for annual monitoring and reporting of wildlife activity on coal mining areas. Detailed procedures and site-specific requirements have been carried out as approved by WGFD and FWS. The monitoring program is conducted in accordance with appendix B of WDEQ/LQD Coal Rules and Regulations. Baseline wildlife monitoring was conducted from February 1999 through February 2000 on the West Hay Creek LBA tract analysis area concurrent with an analysis conducted for a permit amendment for the Buckskin Mine. Powder River Eagle Studies (now Thunderbird Wildlife Consulting) submitted a proposed scope of work for wildlife baseline studies on the Buckskin Mine expansion area, which proposed no fish or benthic sampling due to the absence of perennial streams in the study area, to Mr. Vern Stelter with the WGFD for review in May of 1999. In response, Powder River Eagle Studies received a letter from Tom Collins, WGFD, dated May 18, 1999, concurring with the Buckskin baseline study proposal as written. Triton received a letter from Gregg Arthur, WGFD, dated December 23, 2003, recommending that WDEQ consider the consultation by Buckskin Mine with WGFD regarding the temporary diversion of Hay Creek to be complete and recommending approval of the temporary diversion.
2. The FEIS includes the available information on the aquatic species that have been observed during annual wildlife surveys conducted for the Buckskin Mine in this drainage

As discussed above, the wildlife baseline studies conducted to date have been approved by WGFD and WDEQ. If Triton acquires a lease for the West Hay Creek LBA tract, it would be a maintenance lease for the Buckskin Mine, which has an approved mining and reclamation permit. The approved Buckskin Mine permit area includes the West Hay Creek LBA tract, but Triton would be required to modify their existing mining and reclamation permit to include removing coal from the West Hay Creek LBA Tract before mining operations, including disturbance that would affect Hay Creek, could occur. Mitigation and monitoring plans that are specific to the new lease would be developed at that time. Surface coal mining operations in the State of Wyoming are regulated by the WDEQ/LQD, which must approve the mining and reclamation permits before mining can occur. If the existing monitoring requirements for aquatic species are not adequate, then WGFD could review the proposed plans for wildlife monitoring and address the deficiencies when the permit application package for proposed coal mining and reclamation on the West Hay Creek LBA Tract is submitted for approval by WDEQ/LQD.

3. The mitigation requirements summarized in Table 4-3 in the West Hay Creek EIS are part of the existing mining and reclamation plans for surface coal mines in the Powder River Basin that have been submitted to and approved by WDEQ/LQD.

The mitigation requirements are developed during the mining permit review and approval process, and changes or additions to those requirements could be made when the permit application package for proposed coal mining and reclamation on the West Hay Creek LBA Tract is submitted to WDEQ for review and approval.



The State
of Wyoming

Dave Freudenthal, Governor

Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

FEDERAL LAND
MANAGEMENT
CASPER FIELD OFFICE

03 MAY 29 AM 10:19



ADMIN/OUTREACH	ABANDONED MINES	AIR QUALITY	INDUSTRIAL SITING	LAND QUALITY	SOLID & HAZ. WASTE	WATER QUALITY
(307) 777-7758	(307) 777-6145	(307) 777-7391	(307) 777-7368	(307) 777-7756	(307) 777-7752	(307) 777-7781
FAX 777-3610	FAX 777-6462	FAX 777-5616	FAX 777-6937	FAX 777-5864	FAX 777-5973	FAX 777-5973

May 13, 2003

Through: Tracy Williams, Wyoming Office of Federal Land Policy

Ms. Patricia Karbs
Bureau of Land Management
Casper Field Office
2987 Prospector Dr.
Casper, WY 82604

RE: West Hay Creek Coal Lease Application Draft Environmental Impact Statement

Dear Ms. Karbs:

The Air Quality Division of the Wyoming Department of Environmental Quality has reviewed the Draft Environmental Impact Statement for the West Hay Creek Coal Lease Application. The Air Quality Division has noted some concerns regarding disclosure within the air quality analyses used in this Draft EIS. The Division believes that there is not adequate disclosure of the differences between the air quality permit analysis and the Wyoming PRB Oil and Gas EIS air quality analysis. In addition, there is not adequate disclosure of the WEDQ-AQD permit analysis for the Buckskin Mine. Attached you will find the Air Quality Division's specific comments.

During review of this document the Division found incorrect references to the Wyoming Air Quality Standards and Regulations (WAQSR). As of October 29, 1999, the entire set of WAQSR were restructured from one chapter into thirteen chapters. Attached is a guide to the restructuring of the WAQSR. A copy of the most current WAQSR is available on our website (<http://deq.state.wy.us/aqd>).

If you should have any questions regarding the comments, please feel free to contact this office.

Sincerely,

Dan Olson
Administrator Air Quality Division

Cc: Darla Potter, Air Quality Division
Cara Casten, Air Quality Division

West Hay Creek Coal Lease Application Draft EIS Comments	
Page, Paragraph, Sentence*	Comments
ES-15; Table ES-2	Please put units on the "Maximum Modeled Concentration" column and the "PSD Class I Increment" column.
3-17; 3 rd P	The NO ₂ monitors in the east PRB are part of a cooperative effort by the WDEQ and the coal mines. The monitors are officially run by the coal mines. Please remove "WDEQ" from the first sentence.
3-20; 5 th P; 1 st S	Concentrations of which constituent? Please clarify the first sentence by specifying the type (size) of particulate these concentrations correspond to.
3-26; 3 rd P; Last S	The sentence states, "Visual Range monitoring in the Bridger Wilderness Area shows that one can see more than 70 miles 70% of the time". Please document the source of these statistics.
4-14; Last P; 4 th S	As of October 29, 1999, the entire set of Wyoming Air Quality Standards and Regulations were restructured from one chapter into thirteen chapters. The restructuring was only a rearrangement of the existing regulations. The Division did not make any changes or additions in the content of the existing regulation beyond basic introductions and cosmetic changes to the newly organized chapters. Therefore, the reference to section 24 should now read Chapter 6, Section 4. A guide to the WAQSR restructuring is attached. Please see the website (http://deq.state.wy.us/aqd) for a copy of the most current regulations.
Chapter 4: General	<p>Impacts to air quality are discussed in two separate sections in Chapter 4, Direct and Indirect Impacts of Action Alternatives and Cumulative Impacts. The Direct and Indirect Impact of Action Alternatives section uses the Buckskin Mine air quality permit analysis (MD-707) to disclose potential air quality impacts of the proposed action and alternatives (page 4-11 to 4-14). The Cumulative Impacts section uses the "Wyoming PRB Oil and Gas Project EIS" air quality analysis to represent cumulative impacts of proposed development in the Powder River Basin (pages 4-48 to 4-65).</p> <p>The Division believes that there is not adequate disclosure of the differences between these two analyses. Specifically, the EIS should explain the difference in the purpose and use of two different background concentrations for PM₁₀ in the analyses.</p> <p>The Buckskin Mine air quality permit (MD-707) uses a background PM₁₀ concentration of 15 µg/m³. The permit analysis is considered to be more relevant to the coal leasing aspect of the EIS. In the permit analysis, emission from the coal mine and all other sources</p>

* P = Paragraph, S = Sentence

	<p>in the area are added to this background, regardless of when it was permitted or built.</p> <p>The "Wyoming PRB Oil and Gas Project EIS" uses a PM₁₀ background concentration of 17 µg/m³. The air quality analysis in the PRB Oil and Gas EIS is intended to focus on oil and gas leasing and then cover, on a broad basis, other sources in the area including coal mines. The background concentrations are recently monitored values and are intended to represent all sources permitted before a specified date. The analysis is then built on any sources constructed or modified after that date. Therefore, the analysis only looks at projected mine increases. The PM₁₀ background concentration used in the PRB Oil and Gas EIS is from monitoring conducted in Gillette, and was used as the background for the entire Powder River Basin.</p>
4-60; Table 4-10	Please put units on the "Maximum Modeled Concentration" column and the "PSD Class I Increment" column.
Appendix E	The Division believes there is not adequate disclosure of the WDEQ-AQD permit analysis for the Buckskin Mine. The Appendix should include a section that discusses the process, methodology and assumptions of the permit analysis to back up the results presented in Chapter 4.

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DIRECTOR OF LAD
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DIVISION
CASPERS FIELD OFFICE

WAQS&R RESTRUCTURING PLAN

May 12, 2003 rev.

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CASPER FIELD OFFICE

Chapter 1: Common provisions

03 MAY 29 AM 10:19

New Section #	Title	Old Section #
1	Introduction to common provisions	--
2	Authority	1
3	Definitions	2
4	Diluting and concealing emissions	18
5	Abnormal conditions and equipment malfunction	19
6	Credible Evidence	--

Chapter 2: Ambient Standards

New Section #	Title	Old Section #
1	Introduction to ambient standards	--
2	Ambient standards for particulate matter	3
3	Ambient standards for nitrogen oxides	10a
4	Ambient standards for sulfur oxides	4a
5	Ambient standards for carbon monoxide	12a
6	Ambient standards for ozone	8
7	Ambient standards for hydrogen sulfide	7a
8	Ambient standards for suspended sulfates	6
9	Ambient standards for fluorides	11
10	Ambient standards for lead	26

11	Ambient standards for odors	16
Chapter 3: General Emission Standards		
New Section #	Title	Old Section #
1	Introduction to general emission standards	--
2	Emission standards for particulate matter	14
3	Emission standards for nitrogen oxides	10b(excluding 10b(vi))
4	Emission standards for sulfur oxides	4c-g
5	Emission standards for carbon monoxide	12b
6	Emission standards for VOCs	9
7	Emission standards for hydrogen sulfide	7b
8	Emission standards for asbestos	29
Chapter 4: State Performance Standards for Existing Sources		
New Section #	Title	Old Section #
1	Introduction to state performance standards for existing sources	--
2	Existing sulfuric acid production units	4b,5a
3	Existing nitric acid manufacturing plants	10(b)(vi)
4	Existing municipal solid waste landfills	35
5	Existing hospital/ medical/ infectious waste incinerators	37

Chapter 5: National Emission Standards		
New Section #	Title	Old Section #
1	Introduction to national emission standards	22
2	New source performance standards	33(all but h)
3	National emission standards for hazardous air pollutants	
Chapter 6: Permitting Requirements		
New Section #	Title	Old Section #
1	Introduction to permitting requirements	--
2	Permit requirements for construction, modification and operation	21
3	Operating permits	30
4	Prevention of significant deterioration	24
5	Permit requirements for construction and modification of NESHAPs sources	33h
6	Permit requirements for case-by-case MACT determinations	36
7	Clean air resource allocation expiration	27
Chapter 7: Monitoring Regulations		
New Section #	Title	Old Section #
1	Introduction to monitoring regulations	--
2	CEM requirements for existing sources	23

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3	Compliance Assurance Monitoring	--
Chapter 8: Non-attainment Area Regulations		
New Section #	Title	Old Section #
1	Introduction to non- attainment area regulations	--
2	Sweetwater County particulate matter regulations	25
3	Conformity of general federal actions to state implementation plans	32
4	Transportation conformity	31
Chapter 9: Visibility Impairment/PM Fine Control		
New Section #	Title	Old Section #
1	Introduction to visibility impairment and PM fine control	--
2	Visibility	28
Chapter 10: Smoke Management		
New Section #	Title	Old Section #
1	Introduction to smoke management	--
2	Open burning restrictions	13
3	Woodwaste burners	15
Chapter 11: National Acid Rain Program		
1	Introduction to national acid rain program	--
2	Acid rain program	34

Chapter 12: Emergency Controls		
New Section #	Title	Old Section #
1	Introduction to emergency controls	--
2	Air pollution emergency episodes	20
Chapter 13: Mobile Sources		
1	Introduction to mobile sources	--
2	Motor vehicle pollution control	17

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CASPARI FIELD OFFICE
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Response to Wyoming Department of Environmental Quality Letter

The air quality sections in the FEIS have been revised in response to comments received from Wyoming Department of Environmental Quality Air Quality Division (WDEQ/AQD) as well as from the Environmental Protection Agency. WDEQ/AQD provided BLM with information about air quality regulations and program procedures as well as corrections to the air quality sections during the revision process. Through this process, we believe that the WDEQ/AQD comments on the Draft West Hay Creek EIS have been addressed.



United States Department of the Interior

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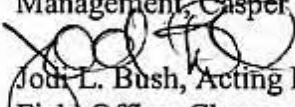
**Ecological Services
4000 Airport Parkway
Cheyenne, Wyoming 82001**

In Reply Refer To:
ES-61411/W.02/WY7073

June 3, 2003

Memorandum

To: Nancy Doelger, Environmental Protection Specialist, Bureau of Land Management, Casper Field Office, Casper, Wyoming

From:  Jodi L. Bush, Acting Field Supervisor, U.S. Fish and Wildlife Service, Wyoming Field Office, Cheyenne, Wyoming

Subject: Comments on the West Hay Creek Draft Environmental Impact Statement

This responds to your requests for comments on the West Hay Creek Draft Environmental Impact Statement (DEIS) dated March 27, 2003, received in the Wyoming Field Office on March 28. The DEIS analyzes the impact of the sale and issuance of a lease for approximately 840 acres and 145 million tons of in-place Federal coal reserves located in Campbell County, Wyoming.

GENERAL COMMENTS

1 The U.S. Fish and Wildlife Service (Service) does not believe that the DEIS and Appendix G provide an adequate assessment of the effects of coal mining once these tracts are leased. The Bureau of Land Management (Bureau) defers discussion of the effects to endangered, threatened, proposed and candidate species, and migratory birds to future consultations between the Service and the Wyoming Department of Environmental Quality, Land Quality Division (WDEQ/LQD) which acts as the Office of Surface Mines' (OSM) representative for section 7 consultation. However, the Bureau is the only agency with discretionary authority to issue a coal lease. Once these leases are issued the lessee has the right to mine the coal. Therefore, we recommend that the Bureau determine the effects to listed and proposed species, if any, of all future actions which are reasonably certain to occur as a result of these leasing actions, prior to their issuance.

Threatened and Endangered Species

2 The Bureau should work with the Service in developing surveys, impact minimization measures and conservation measures for all Federally listed species. Section 7(a)(1) of the Endangered Species Act of 1973 (Act), as amended, (50 CFR 402) authorizes the Bureau to use their programs to further the conservation and recovery of threatened and endangered species. Therefore, we encourage the Bureau to incorporate measures for the conservation of listed species into the lease stipulations.

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SPECIFIC COMMENTS

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Page ES-10, Executive Summary: The Executive Summary states that "no T&E species or potential habitat was found on the tract for the bald eagle...". However, coal bed methane (CBM) development is occurring on the West Hay Creek Lease-by-Application (LBA) tract. The Bureau's final Biological Assessment (BA) for the Powder River Basin Oil and Gas Project states that increased traffic, road kills and carrion, resulting from CBM activities, potentially increases vehicle collision hazard to bald eagles". In the Service's biological and conference opinion for the Powder River Basin Oil and Gas Project (USFWS 2002), page 28, it states "the Service believes that as a direct result of the construction of approximately 7,136 miles of new improved roads and 5,311 miles of overhead distribution lines, there will be direct loss of bald eagles". Because increased traffic, road kills and carrion can attract bald eagles to otherwise unsuitable habitats the Service recommends that the cumulative effects section analyze the impact of CBM development on and near the LBA tract. In addition, the EIS should require that the raptor proof construction techniques as outlined in *Suggested Practices For Raptor Protection on Power Lines. The State of the Art* (Avian Power Line Interaction Committee 1996) are used and monitor these in order to ensure compliance.

4
Page 1-3, Introduction: The DEIS states that this document will be used by OSM to make decisions related to the approval of the Mineral Leasing Act of 1920 (MLA) mining plans for these tracts... The DEIS does not fully analyze the potential impacts of all phase of mining that are likely to occur if these leases are issued. The Service recommends using *An Environmental Guide To Western Surface Mining Part Two: Impacts, Mitigation and Monitoring* (Moore and Mills 1977). This document is an excellent reference for identifying all the phases of mining operations which should be analyzed in the leasing Environmental Impact Statement (EIS).

5
Page 2-19, Table 2-3, Summary Comparison: The DEIS indicates that most impacts to wildlife habitat from the proposed action and the alternatives would be moderate and short term. However, on page 4-84 of the DEIS it states "Coal mining activity does cause long-term disturbance to (sage grouse) nesting habitat". Additionally, on page 4-21 of the DEIS it indicates that up to 100 years will be required to restore sagebrush to pre-mining densities. The Service disagrees with the Bureau's assessment that impacts to wildlife habitat would be moderate and short term. The EIS analysis should clearly identify the amount and type of sage grouse habitat (lek, nesting, brood rearing) affected, both in the short and long-term, by this project.

6
Page 3-47, Threatened, Endangered and Candidate Plant Species: The DEIS states "no Federally listed threatened, endangered, or candidate plant species are known to occur within the analysis area. The analysis area was surveyed in 1999 for threatened, endangered, or candidate (plant) species using the Wyoming Rare Plant Field Guide (Thorne 1994) as their reference". The Service's Recommendations and Guidelines for Ute Ladie's-Tresses Orchid (*spiranthes diluvialis*) Recovery and Fulfilling Section 7 Consultation Responsibilities (USFWS 1995) would be a more through and appropriate reference for conducting a survey for this orchid. Surveys for any threatened, endangered, proposed or candidate species should be coordinated with the Service's Wyoming Field Office to ensure that appropriate survey methods are used.

Page 3-50, Game Birds: The DEIS does not mention that the sage grouse has been petitioned for listing under the Act because of rangewide population declines. Please include the following information in your discussion of sage grouse:

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The Service has received several petitions to list the greater sage-grouse (*Centrocercus urophasianus*) under the Act. The causes for the greater sage-grouse range wide decline are not completely understood, and may be influenced by local conditions. However, habitat loss and degradation, as well as loss of population connectivity are important factors (Braun 1998, Wisdom et al. 2002). Any activities that result in loss of sagebrush, or degrade important sage-grouse habitats, should be closely evaluated for their impacts to sage grouse.

Greater sage-grouse are dependent on sagebrush. Population and habitat analyses suggest that wintering habitat can be as limiting as mating and breeding habitats. Therefore, you should work with the local Wyoming Game and Fish biologist to identify important greater sage-grouse habitats within the project area, and appropriate mitigative measures to minimize potential impacts from the proposed project. The Service recommends surveys and mapping of important greater sage-grouse habitats where local information is not available. The results of these surveys should be used in project planning, to minimize potential impacts to this species. No project activities that may exacerbate habitat loss or degradation should be permitted in important habitats.

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In Wyoming, anecdotal information, from several sources in Wyoming, suggests that greater sage-grouse populations are negatively affected by construction (energy development) activities, especially those that degrade important sagebrush habitat, even when mitigative measures are implemented (Braun 1998, Lyon 2000). There is some evidence that grouse populations do repopulate areas developed for resource extraction after reclamation for the species (Braun 1987). However, there is no evidence that populations attain their previous levels and reestablishment of sage grouse in a reclaimed area may take 20-30 years, or longer (Braun 1998). Therefore, this project should be carefully evaluated for long-term effects on the greater sage-grouse, since reclamation may not restore populations to pre-activity levels. The Bureau should ensure this activity does not exacerbate greater sage-grouse declines on either a local, or range-wide level.

In 2000, the U.S. Forest Service, the Bureau, and the Service signed a Memorandum of Understanding with the Western Association of Fish and Wildlife Agencies to conserve the greater sage-grouse and its habitat. This Memorandum of Understanding outlined the participation of Federal and State wildlife agencies, including the Wyoming Game and Fish Department, in greater sage-grouse conservation, and these commitments should be considered in project planning in sage-grouse habitat. Additionally, unless site-specific information is available, greater sage-grouse habitat should be managed following the guidelines by Connelly et al. 2000.

Page 4-25, Wildlife: The DEIS States "losses (of migratory birds) would also occur when habitat disturbance coincides with egg incubation and rearing of young". The Service would like to remind the Bureau that the Migratory Bird Treaty Act, 16 U.S.C. 703, enacted in 1918, prohibits

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the taking of any migratory birds, their parts, nests, or eggs except as permitted by regulations and does not require intent to be proven. Section 703 of the Act states, "Unless and except as permitted by regulations ... it shall be unlawful at any time, by any means or in any manner, to ... take, capture, kill, attempt to take, capture, or kill, or possess ... any migratory bird, any part, nest, or eggs of any such bird...". The Bald and Golden Eagle Protection Act, 16 U.S.C. 668, prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald or golden eagles or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing.

8 Work that could lead to the take of a migratory bird including an eagle, their young, eggs, or nests (for example, if you are going to construct roads, or power lines in the vicinity of a nest), should be coordinated with our office before any actions are taken. Removal or destruction of such nests, or causing abandonment of a nest could constitute violation of one or both of the above statutes. Removal of any active migratory bird nest or nest tree is prohibited. For golden eagles, inactive nest permits are limited to activities involving resource extraction or human health and safety. Mitigation, as determined by the local Service field office, may be required for loss of these nests. No permits will be issued for an active nest of any migratory bird species, unless removal of an active nest is necessary for reasons of human health and safety. Therefore, if nesting migratory birds are present on, or near the project area, timing is a significant consideration and needs to be addressed in project planning.

The EIS should identify mitigation measures that would avoid the take of migratory birds and their nests. One measure to reduce the effects of mining on nesting migratory birds would be to restrict the removal of surface vegetation during mining to the non-nesting season (August 15 - March 31). The Service recommends that this measure be included in the Bureau's Special Stipulations found in Appendix D.

Page 4-80, Wetlands: The DEIS states that "during mining and before replacement of wetlands, all wetland functions would be lost. The replaced wetlands may not function in the same way as the pre-mine wetlands did". The Service recommends that in lieu of site-specific studies to determine the functions and values of the wetlands being affected, a wetland mitigation ratio of at least 1.5:1 be used (USFWS 1997). The higher mitigation is recommended for the following reasons (King and Adler 1991):

1. time is required for the created or restored wetland to replace the functions lost in the natural wetlands.
2. the functions performed by wetlands created or restored in the future are not equal, in terms of present worth, to the impacted wetlands
- 9 3. created or restored wetlands cannot always provide full replacement of functions even if they are considered successful.
4. created or restored wetlands do not always function as expected so there is a need for some margin of safety to replace lost functions.

5. the higher mitigation ratio addresses our above concerns and is consistent with the Service mitigation policy, and the Service's Region 6 mitigation guidelines.

In addition, the need for minimum ratios of greater than 1:1 for created or restored wetlands is recognized by the Environmental Protection Agency (EPA) in their regional draft guidelines, in the 1990 MOA between EPA and the U.S. Army Corps of Engineers regarding determination of mitigation under the Clean Water Act Section 404(b)(1) and in compensatory mitigation issue papers published in August 1994, by the Baltimore District of the U.S. Army Corps of Engineers.

Due to the high failure rate of mitigation projects, and of created wetlands in particular, we request that the mitigation plan include goals and objectives, success criteria, and monitoring of sufficient duration to determine if the mitigation is successful.

10 Page 4-84, Wildlife: The DEIS states that "... should not significantly affect regional sage grouse populations because few vital sage grouse wintering areas or leks have been, or are planned to be disturbed". However, in the same paragraph the DEIS states "coal mining does cause long-term disturbance to nesting habitat. Because sage grouse populations throughout Wyoming have been declining over the past several years, this impact could be significant to local population when evaluated with the cumulative impacts of all energy-related development occurring in the area". Based on the information presented in table 3-8, page 3-42, approximately 60 -70 percent of the analysis area is suitable habitat for the sage grouse. The EIS analysis should clearly identify the amount and type of sage grouse habitat (lek, nesting, brood rearing) affected by this project.

Page D-1, Appendix D, Bureau Special Stipulations: The header states "BLM will attach the following special stipulations to the West Hay Creek LBA tract if it is leased: . . .". However, the Bureau does not identify a single special stipulation for endangered, threatened, proposed or candidate species, or migratory birds or wildlife. The Service recommends that all measures to minimize the affects to listed species developed during the section 7 consultation for the West Hay Creek Leasing Project be incorporated as lease stipulations. In addition the Service recommends that the following stipulation be attached to each of the LBA tracts:

- 11 • All suitable habitat for threatened and endangered species on Federal lands within the lease tracts that is disturbed during mining will be reclaimed in kind at a 1:1 ratio during reclamation. If reclamation cannot restore suitable habitat then conservation easements will be acquired on the closest existing habitat for threatened and endangered species from willing landowners.

Title Page, Appendix G: The Service is unclear if Appendix G is to serve as the BA to meet the Bureau requirements pursuant to section 7(a)(2) of the Act (50 CFR §402.13). The DEIS and Appendix G do not currently provide adequate information on the effects of the proposed action and alternatives on endangered, threatened, proposed and candidate species. The Service recommends that if it is the Bureau's intention that Appendix G function as the BA for the West Hay Creek Leasing it include the following information:

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1. a clear description of the project, including any interrelated/interdependent actions and cumulative effects;
2. a description of the specific area potentially affected by the action;
3. the current status, habitat use, and behavior of threatened and endangered species in the project area;
4. discussion of the methods used to determine the information in item 3;
5. direct and indirect impacts of the project to threatened and endangered species, including impacts of interrelated and interdependent actions;
6. an analysis of the effects of the action on listed and proposed species and their habitats including cumulative impacts from Federal, State, or private projects in the area;
7. measures that will reduce or eliminate adverse impacts to threatened and endangered species;
8. the expected status of threatened and endangered species in the future (short and long term) during and after project completion;
9. determination of "is likely to adversely affect" or "is not likely to adversely affect" for listed species;
10. determination of "is likely to jeopardize" or "is not likely to jeopardize" for proposed species;
11. Alternatives to the proposed action considered, a summary of how impacts of those alternatives on listed and proposed species would differ from the proposed action, and the reasons for not selecting those alternatives;
12. citation of literature and personal contacts used in the assessment.

13

Page G-7, Appendix G, Ute ladies'-tresses: The DEIS states "Habitat Management, Inc. surveyed the analysis area between April through October 1999 for threatened, endangered, or candidate plant species". However, the DEIS does not provide additional information regarding who conducted the surveys, the timing of the surveys, the area covered and if Ute ladies'-tresses was the specific target of the surveys. Review of Appendix D8 - Vegetation, Hay Creek Amendment Area: Vegetation Baseline Study on file at the WDEQ/LQD offices does not identify the specific dates of surveys for the Ute ladies'-tresses orchid, if suitable habitat was present, or if all potentially suitable habitat for this orchid was surveyed. The Ute ladies'-tresses orchid can only be reliably found and identified when it is flowering, which typically occurs sometime during the period from mid-July through mid-September (USFWS 1995). Additionally, this orchid has the ability to remain dormant (without above ground growth) for at least 1 year. The Service recommends that the EIS include additional information on all surveys conducted on these LBA tracts and any additions proposed in alternatives in the EIS. Furthermore, the Service recommends that multiple surveys be conducted in areas of moderate to high potential habitat quality during the flowering season (July 20 - August 31, 2003), if they have not already been conducted.

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Page G-9, Appendix G, Regulatory Requirements and Mitigation: The DEIS and Appendix G state that "As part of the application and approval process for MLA mining plans and the State mining and reclamation permits, coal lessees are required to conduct additional surveys and other evaluations as needed to ensure compliance with the Endangered Species Act. The FWS will again be consulted during the permit application review process". As stated in the Service's

letter of May 28, 2002, issuance of a new coal lease is a discretionary Federal action, and therefore, the Bureau should consult with the Service if the issuance of the lease may negatively affect a listed species or jeopardize a proposed species. This consultation should include all future reasonably foreseeable actions which will occur as a result of this leasing decision. If there may be adverse affects to species protected by the Act, as a result of leasing, or subsequent coal mining and reclamation activities, the Bureau must address those impacts at this time. The ultimate responsibility for section 7 compliance for Federal actions remains with the Federal agency.

15 Page G-10, Cumulative Impacts: The DEIS identifies that there are direct effects that will result from the issuing of this coal lease for sale but does not adequately address the direct, indirect or cumulative effects of all development occurring in the Powder River Basin. The EIS should fully disclose the direct and indirect effects of all aspects of the project as well as the cumulative impacts of past (as of December, 2002 there were 21,899 oil and gas wells in the Powder River Basin of Wyoming, (Marvel 2003), and coal mining has disturbed 54,000 acres), present (the impacts of the Powder River Basin Oil and Gas Project and the Montana Statewide Oil and Gas Project) and reasonably foreseeable future actions (the impacts of four to six new power plants and connecting high voltage distribution lines have been proposed for the Powder River Basin); regardless of who is responsible for those actions.

The Service appreciates the opportunity to comment on this DEIS. If you have any questions regarding this letter or your responsibilities under the Act, please contact Bradley Rogers of my staff at the letterhead address or phone (307) 772-2374, extension 25. In your response, please refer to (W.02/WY7073).

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- Wyoming Rare Plant Technical Committee. 1994. Wyoming Rare Plant Field Guide. Wyoming Natural Diversity Database, Laramie, Wyoming
- cc: BLM, Wyoming State Office, Cheyenne, WY (J. Carroll)
 EPA, Denver, CO (D. Allen)
 FWS, NEPA Coordinator, FWS, Denver, CO (C. Young-Dubovsky)
 WGFD, Statewide Habitat Protection Coordinator, Cheyenne, WY (T. Collins)
 WGFD, Non-Game Coordinator, Lander, WY (B. Oakleaf)

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Response to US Fish and Wildlife Service Letter

1. Several years ago, the Wyoming BLM State Director directed BLM Wyoming field offices to complete section 7 consultation with the FWS prior to issuing new federal coal leases. From the time that decision was made to the issuance of the Draft West Hay Creek coal lease application EIS, no new federal coal leases have been issued in the state. Since the issuance of the draft West Hay Creek EIS, BLM has completed section 7 consultation on five LBA tracts in Campbell and Converse counties in the Powder River Basin and intends to complete section 7 consultation on the West Hay Creek LBA tract prior to making a decision on leasing the West Hay Creek LBA tract.
2. Threatened and Endangered Species. Following discussions with the FWS, OSM, FS, and WDEQ/LQD, BLM has begun attaching a stipulation concerning threatened and endangered species to federal coal leases in Wyoming (appendix D, stipulation (c) of this FEIS).

Specific Comments

3. The referenced statement on page ES-10 of the DEIS summarizes the “Habitat and/or Occurrences” discussion for the bald eagle found in appendix G of the DEIS; it is based on the results of baseline and annual wildlife surveys conducted for the Buckskin Mine. The discussion of potential cumulative wildlife impacts has been revised in chapter 4 and appendix G of the FEIS to include the information provided in your comments.

The Wyoming Coal Mining Rules and Regulations, Chapter 4, Section 2(r)(i) require that each surface coal mine operator shall, “to the extent possible using the best technology currently available and consistent with the approved postmining land use, minimize disturbance and adverse impacts on fish, wildlife, and related environmental values, and achieve enhancement of such resources where practicable” and that those activities shall include properly constructing, locating and operating roads and powerlines, including proper design of powerlines to avoid electrocution of raptors.

The Wildlife section in chapter 4 of the EIS references the approved raptor mitigation plan for the Buckskin Mine, which is part of the approved mining and reclamation permit. Use of raptor-safe power lines, based on the best technology currently available, is part of the mining and reclamation permit for the mine, as required by law. If the West Hay Creek LBA Tract is leased to Triton, the raptor mitigation plan would be amended to include the newly leased tract as required by FWS and WDEQ/LQD, and the existing mining and reclamation permit would be amended to include mining operations on the LBA tract.

4. The EIS analyzes the impacts of leasing a maintenance tract to an existing mine, based on the observed impacts that have occurred and the knowledge that has

been gained from mining and reclamation practices, mitigation measures, and monitoring of surface coal mining operations, which have been conducted in the Powder River Basin for 30 years. The OSM is a cooperating agency on this EIS and has been a cooperating agency on previously prepared EISs analyzing the impacts of leasing federal coal in the basin. OSM has reviewed this EIS and previously prepared EISs to ensure that the analyses are adequate for their needs when the MLA mining plans are evaluated for approval by the Assistant Secretary of the Interior. Your comments did not specifically identify impacts that have been omitted in this and the previous leasing EISs prepared for the Wyoming PRB. We would suggest scheduling a meeting, to include OSM, to discuss additional information that you have identified which should be included in future coal leasing EISs.

5. The FEIS has been revised to include additional information on sage grouse occurrence on the LBA tract and the potential impacts to sage grouse.
6. Additional information regarding the surveys for Ute ladies'-tresses is included in appendix G of the FEIS. Habitat Management, Inc. conducted a survey for Ute ladies'-tresses within the Buckskin Mine Hay Creek permit amendment baseline study area in 1999. Wayne Erickson and Kenneth Carlson of Habitat Management, Inc. managed and were involved in conducting the studies. Both Mr. Erickson and Mr. Carlson have letters from the FWS Colorado Field Services Office recognizing them as qualified to conduct surveys for Ute ladies'-tresses. Other members of the survey team included Dr. Don Hazlett and Mr. Steve Viert of Cedar Creek Associates, Inc., who are both recognized as qualified to conduct Ute ladies'-tresses habitat assessment and surveys by FWS. Pedestrian surveys of all potential habitats were conducted from July 25 through August 4, 1999 and August 31 through September 3, 1999. The survey team met with FWS personnel in Cheyenne on August 30, 1999 to discuss currently acceptable Ute ladies'-tresses survey methods and practices. All wet meadow wetland and lowland prairie vegetation community types were surveyed.
7. The information provided in your comments has been added to the sage grouse discussion in the FEIS.
8. The referenced discussion of potential impacts to displaced songbirds on page 4-25 of the DEIS has been revised in the FEIS to address migratory bird species of management concern in Wyoming.

As discussed in the EIS, the Buckskin Mine has an existing mine has an approved raptor mitigation plan, which is subject to FWS review and approval before the mining and reclamation plan is approved. If Triton acquires a lease for the West Hay Creek LBA tract, the existing plan for the Buckskin mine would have to be amended to include mining operations in the tract prior to initiation of mining activities on those areas. Any nest that will be impacted by mining operations must be relocated in accordance with the approved raptor mitigation plan, after

special use permits are secured from FWS and WGFD. The Buckskin Mine has previously completed this process on the existing Buckskin leases. All active raptor nests within the mine permit area are protected further by buffer zones. Mine-related disturbances for the existing approved mining operations are not allowed to encroach in the near vicinity of any active raptor nest from March until hatching, and disturbances near raptor nests containing nestlings is strictly limited to prevent danger to, or abandonment of, the young.

BLM does not attach stipulations to lease documents for the purpose of regulating how or when mining operations are conducted because:

- a) such stipulations would not be effective or enforceable since the lease document does not authorize or regulate mining operations;
 - b) there are federal and state regulations in place that do direct how surface coal mining operations will be conducted on federal and nonfederal coal leases and there are agencies that are authorized to enforce those regulations. Specifically, as discussed in the "Regulatory Authority and Responsibility" section of the EIS, SMCRA gives the authority for administering programs that regulate surface coal mining operations and surface effects of underground coal mining operations to the OSM. In Wyoming, WDEQ has entered into a cooperative agreement with the Secretary of the Interior to regulate surface coal mining operations and surface effects of underground mining on nonfederal and federal lands within the state;
 - c) stipulations apply only to the specific federal lease to which they are attached, while mining operations for a single mine can occur on multiple federal and nonfederal leases as well as on areas within the mining permit that are not leased for coal removal but may be disturbed as a result of mining operations; and
 - d) stipulations attached to a specific lease cannot readily be changed to incorporate new information or better technology. Stipulations on federal coal leases can only be changed when the lease is readjusted, which is every 20 years. A mining and reclamation permit applies to the entire mining operation and must be renewed periodically, at which time new information and mitigation measures can be incorporated.
9. As discussed in the EIS, the COE reviews all surface coal mining and reclamation permits. COE requires mitigation of all impacted jurisdictional wetlands in accordance with section 404 of the Clean Water Act. They approve the plans for wetland restoration and the number of acres to be restored. COE considers the type and function of each jurisdictional wetland that will be impacted and may require restoration of additional acres if the type and function of the restored wetlands will not completely replace the type and function of the original wetland.

The wetland mitigation plan approved by COE becomes part of the WDEQ mining permit.

10. Additional information about sage grouse habitat affected by the project has been added to the direct and direct impact discussion earlier in chapter 4. Potential cumulative impacts to sage grouse as a result of all anticipated activity in this area are discussed in the wildlife portion of the Cumulative Impact section in chapter 4 of the EIS.
11. As discussed in response 2, above, following discussions with the FWS, OSM, FS, and WDEQ/LQD, BLM is attaching a stipulation concerning threatened and endangered to future federal coal leases in Wyoming (see appendix D, stipulation (c) of this FEIS).

As discussed in response 8 above, BLM does not attach stipulations designed to regulate how or when mining operations are conducted to lease documents because the lease document does not authorize or regulate mining operations.

12. Appendix G of the FEIS has been revised, based on written comments from and oral discussions with FWS that have taken place since the DEIS was published. The revised appendix has been provided to USFWS for further comment and consultation for the West Hay Creek LBA tract will be completed prior to issuance of a decision for the tract.
13. Additional information about the techniques, timing, and results of surveys conducted for Ute ladies'-tresses on the tract is included in appendix G of the FEIS and discussed in response 6 above.
14. As indicated above in responses 1 and 12, section 7 consultation with the FWS will be completed prior to issuance of a lease for the West Hay Creek LBA tract. As discussed in appendix G, consultation is required under the Wyoming Coal Mining Rules and Regulations and the FWS/OSM agreement and FWS will again be consulted during the permit application review process.
15. The FEIS has been revised to address this comment although not all of the past and present activity referenced in the comment letter would have impacts that are or would be directly or indirectly cumulative to the actions considered in this EIS. The existing federal coal leases in the PRB occupy approximately 108,011 acres in Campbell and Converse counties, which represents approximately 1.9% of the combined area of these two counties. If the West Hay Creek LBA tract is leased under BLM's Preferred Alternative, approximately 921 additional acres would be added and the acres of leased federal coal in the PRB would increase by approximately .009%. Most of the direct and indirect impacts that would be related to mining this lease tend to be localized in the area of mining, with the primary exceptions being some of the cumulative air quality, groundwater quantity, and transportation impacts, which are addressed in the "Cumulative Impacts" section in chapter 4 of the EIS. The West Hay Creek LBA tract would be leased as a

maintenance tract for the existing mine; as a result, it represents a continuation of existing mining activity and associated impacts in the Powder River Basin, not new mining development and associated new impacts.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466
<http://www.epa.gov/region08>

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JUN 19 2003

Ref: 8EPR-N

Nancy Doelger
Casper Field Office
Bureau of Land Management
2987 Prospector Drive
Casper, WY 82600

Re: West Hay Creek Coal Lease Application
DEIS

Dear Ms. Doelger:

The Environmental Protection Agency -- Region 8 has reviewed the *Draft Environmental Impact Statement for the West Hay Creek Coal Lease Application*. The DEIS assesses the environmental impacts of a lease by application (LBA) tract known as the West Hay tract potentially to the Buckskin Mine operated by Triton Coal Company, LLC within the Wyoming Powder River coal basin. We submit the following comments in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

We appreciated the multi-agency coal meeting held earlier this year regarding coal leasing in the Powder River Basin and some of the specific issues for this EIS. We hope these types of discussions will continue and would welcome any further opportunities to discuss our comments on this and future coal mining EISs.

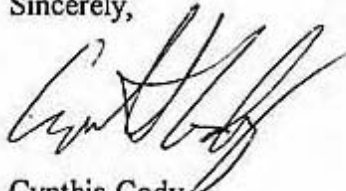
EPA's main concern is air quality in the Powder River Basin (PRB). These coal mines are some of the many sources in the PRB contributing to air quality degradation. EPA has been working closely with the BLM and Wyoming DEQ through the PRB Coalbed Methane EIS to address air quality concerns in the Basin. Although the Wyoming DEQ has by statute, the authority and responsibility to implement air quality mitigation, BLM should use the FEIS to disclose all mitigation for air quality impacts regardless of BLM's jurisdiction (CEQ 40 Questions #19b). The FEIS should outline the regulatory and nonregulatory processes that are underway to address air concerns through the PRB EIS process, as well as include all mitigation under BLM jurisdiction. In particular, since the PRB Coalbed methane Record of Decision has been issued, BLM, Wyoming DEQ, as well as EPA and others have agreed to participate in several working groups that will address the cumulative impacts to air quality in the PRB.

EPA also has concerns about the impacts of nitrogen dioxide emissions from blasting activities and whether or not existing mitigation is sufficient. EPA is also concerned about wildlife impacts to raptors, sage grouse and the long-term implications of coal mining on wetlands in the basin. We are particularly concerned whether or not the 17.5 acres of jurisdictional wetlands and the 7.6 acres of nonjurisdictional playa wetlands within the West Hay LBA will be mitigated with timely and appropriate wetland replacement of equal value.

Based on the procedures EPA uses to evaluate the potential effects of proposed actions and the adequacy of the information in the DEIS, the proposed alternative will be listed in the Federal Register in the category EC-2 (EC - Environmental Concerns, 2 - Insufficient Information). This rating means that the review identified environmental impacts that should be avoided in order to fully protect the environment and the DEIS does not contain sufficient information to thoroughly assess environmental impacts that should be avoided to fully protect the environment. Please see the following detailed comments for specifics on our environmental and information concerns.

We appreciate your interest in our comments. If you have any further questions, please contact Wes Wilson of my staff at (303) 312-6562.

Sincerely,



Cynthia Cody
Director, NEPA Program
Office of Ecosystems Protection
and Remediation

Enclosure: EPA Region 8 Detailed Comments, West Hay Creek, 6 pages

cc: with enclosure

Dan Olsen, Wyoming DEQ, Cheyenne
Floyd McMullen, OSM, Denver
Chandler Peter, Corps of Engineers, Cheyenne
Jeff Sorkin, Forest Service, Denver

Environmental Protection Agency - Region 8 Detailed Comments West Hay Creek

1. Air Modeling Discrepancies The DEIS combines information from two separate and incompatible air quality analyses: (1) The Air Quality Analysis for the Wyoming and Montana CBM EIS, and (2) permit analysis by the Wyoming DEQ for the Buckskin mine. Unfortunately, the two air quality analyses use different techniques, which in some cases are incompatible. The direct PM_{10} impacts from the coal mine permit analysis of $21.9 \mu g / m^3$ is greater than the cumulative impact of $4 \mu g / m^3$ presented in the CBM analysis. Cumulative impacts include: the sum of direct and indirect impacts from the proposed project, and impacts from all other current and reasonably foreseeable activities. Obviously, the cumulative impacts from the mine, plus other sources, cannot be less than the direct impact of the mine alone.

The following sections describe some of the discrepancies between the analyses.

- a. Inconsistent Use of Background PM_{10} Concentration BLM's Powder River CBM EIS uses a background annual PM_{10} level of $17 \mu g / m^3$; the West Hay Coal Draft EIS states that this is also the background assumed for this EIS on page 3-18, Table 3-2. In contrast, the DEQ air permit, also presented in the West Hay DEIS analysis for the Buckskin Mine uses a background level of $15 \mu g / m^3$.
- b. Inconsistency in Air Quality Analysis Results The CBM analysis assumes the higher background level, and includes more sources than the Wyoming DEQ permit analyses, but results in lower concentration predictions.

The PM_{10} cumulative impact of $21 \mu g / m^3$ from the CBM analysis (background plus current and all other reasonably foreseeable development) is clearly incompatible with a direct impact of this permitted mine of $21.9 \mu g / m^3$, and a cumulative impact of mining plus background of $36.9 \mu g / m^3$. If both of these results are to be presented in the same EIS, some effort to reconcile these contradictory predictions must be made. Since the Wyoming DEQ predictions are more relevant for the subject DEIS, the Air Quality Appendix should mention this analysis, and preferably emphasize the mine analysis over the Coal Bed Methane analysis which does not represent near field mine impacts as accurately as does the DEQ permit analysis. The cumulative impacts presented should be modified to show a background of $17 \mu g / m^3$, a direct impact of $21.9 \mu g / m^3$, and contributions from other (i.e., CBM sources).

2. Wyoming DEQ Permit Analysis The DEQ analysis process is not described adequately in the Air Quality appendix. We suggest the Final EIS consider these two differing air quality analyses (the cumulative impact analysis is BLM's recent Coal Bed Methane Powder River RMP EIS and the State of Wyoming air permit for mines) and integrate the results.

3. Cumulative Impacts Above the PSD Class II Increment The maximum cumulative annual PM_{10} impact presented in the Wyoming DEQ permit analyses is $21.9 \mu g / m^3$ (page 4-15). This exceeds the PSD Class II allowable increment for annual PM_{10} of $17 \mu g / m^3$. This impact should be reported in table 4-8, Cumulative Impacts. The State's reasoning behind this permitted level should be discussed (i.e., only some stated fraction of the mine emissions consume increment based on the actual emission in the baseline year of 1997, and this portion of emissions when combined with other new actual and permitted emissions, results in less than $17 \mu g / m^3$ of cumulative impact).
4. Page 4-11 refers to information from upwind and downwind monitors. The wind rose on page 3-15 shows a bimodal wind pattern, with two predominant directions out of the northwest and the southeast. Upwind and downwind are somewhat ambiguous terms with this bimodal wind pattern. This terminology could be changed to "downwind" and "crosswind" to more accurately describe the monitor placement.

Nitrogen Dioxide

Nitrogen Dioxide Some progress has been made by the State and the mining industry in reducing the risk to local residents and travelers from the discharge of nitrogen dioxide from mining blasts. However, releases of nitrogen dioxide are still of concern because of the toxicity of the gas at relatively low levels, the large percentage of the population with respiratory conditions which would render them sensitive to NO_2 , and the lack of a technical method to reliably prevent NO_2 generation.

There are several areas that should be addressed more fully to disclose potential impacts and determine if additional mitigation may be needed. The FEIS should be revised to:

- a. Use a concentration of nitrogen dioxide in analyzing the risk and developing mitigation which will prevent adverse health effects, including sensitive members of the population,
 - b. Identify receptors that may be impacted by nitrogen dioxide releases (e.g., residences, public roads, bus stops, etc.),
 - c. Describe more fully the actions and implementation procedures that the mines and the State have already implemented to reduce NO_2 releases from blasting.
5. Safe Concentrations of Nitrogen Dioxide As discussed in the DEIS, EPA recommends that concentrations not exceed 0.5 ppm to protect sensitive members of the public. Similarly the NIOSH recommendation, which is applicable only to workers, is a limit of 1 ppm based on a 15 minute exposure that should not be exceeded at any time during the workday. The NIOSH recommendation is only for adult, healthy workers, during the workday. It is not designed to protect the general public, which includes infants, the elderly and other sensitive members of the population. The OSHA permissible exposure limit is 5 ppm, determined as a ceiling value. This means that the concentration must not be exceeded during any part of the workday, as measured instantaneously. This value was developed for workers, considering not just their health, but their remuneration and costs to industry to implement the standard. It is not protective of the general public (as described above for the NIOSH recommendation), and is

inappropriate for those who are involuntarily exposed to toxicants. The Immediately Dangerous to Life or Health (IDLH) concentration is 20 ppm.

In reviewing the DEIS, it appears that less protective criteria were used in analyzing the impacts and in developing mitigation. The Thunder Basin Coal Company's study of developing safe setback distances for blasting activities recommended a criteria of 8 ppm NO₂ and it appears that the setback study used 5 ppm (based on a 10 minute average), exceeding EPA's and NIOSH recommendations, and OSHA limits. The impact analysis for this new LBA needs to assess if there is still a potential for nitrogen dioxide levels to exceed 0.5 ppm on public roads, residences or other public access areas. The BLM and OSM need to ensure that public health is protected from mining operations. We recommend that the blasting setback distances be recalculated using 0.5 ppm.

6. Nitrogen Dioxide Concentrations Pages 4-8 through 4-11, summarize information on nitrogen dioxide emissions from an April 2000 study prepared by the Wyoming Mining Association. The last line on page 4-9 states "The maximum 15 minute average valid values observed for each of the six monitors ranged from 0 to 1.65 ppm NO₂." Since 2000, additional monitoring has been conducted that shows nitrogen dioxide levels exceeding levels of concern. For example in the *Black Thunder Mine Report for Development of Safe Setback Distances for Blasting Activities at the Black Thunder Mine*, dated July 2002, the 10-minute average for NO₂ ranged from nondetectable to 20.4 ppm (IDLH = 20 ppm). We assume that the 20.4 ppm (overburden shot # 198202) value was measured in an area that was not accessible to the public. However, the wide range of concentrations demonstrates that nitrogen dioxide concentrations are highly variable and may reach levels which could adversely affect health. Of more concern, are several of the monitoring events which measured concentrations exceeding the health recommendations several thousand feet from the mining blasts. Appendix J of the report lists 5.5 ppm NO₂ at 5,267 feet (cast # 844), 2.1 ppm at 5,368' (cast # 860), and 16.5 ppm at 2,186' (cast # 887). This section in the FEIS should be revised to more fully reflect the range of known nitrogen dioxide emissions. If the data are available, this section should also incorporate the changes in nitrogen dioxide emissions since this mine began developing new blasting methods to reduce nitrogen dioxide emissions.
7. Affected Environment for Nitrogen Dioxide Emissions The FEIS needs to identify the residences, roads and other potential avenues of exposure to nitrogen dioxide. The FEIS should describe the potential risks to people living or traveling in this area. Are there any additional residences or school bus stops in this area? Could the public traffic along either McGee Road or Collins Road west of the West Hay LBA area be affected by blasting?
8. Mitigation for Nitrogen Dioxide Emissions According to page 3.25, the Buckskin Mine has already implemented voluntary measures to reduce NO₂ emissions, primarily by limiting the size of individual shots to control emissions. Because the measures are voluntary, mines may choose not to implement the mitigation measures. The FEIS needs to disclose the impacts for both scenarios. It should also be noted that the measures for the mines do not include a prohibition of blasting when conditions are unfavorable (large blast, wet conditions, weather

inversions, little wind, wind direction towards residences/road, etc.). The existing mitigation merely requires notification and monitoring. We recommend that a stipulation be added to the lease prohibiting blasting when conditions are unfavorable. The mines would then need to analyze the size of blasts in conjunction with weather conditions and potential public exposure, to prevent exceedances of the EPA and NIOSH recommended toxicity levels.

Cumulative Impacts

9. Direct & Indirect Impact Analysis Vs. Cumulative Impacts In the DEIS, there are some inconsistencies between the direct and indirect impact analysis and the cumulative impact sections. This is understandable as the majority of the cumulative impact sections were taken from the PRB Coalbed Methane EIS and the direct and indirect analyses were prepared specifically for this EIS. These inconsistencies become an issue for resources which are substantially affected by cumulative impacts. For several of these resources, the direct and indirect impacts predicted in the DEIS are likely to be different from the actual impacts because of expected changes to the resource as a result of other activities (e.g., the wells that are predicted to be affected or unaffected by coal mining may already be dry because of coalbed methane production). The relative magnitude of direct and indirect impacts may also change as a result of cumulative impacts (e.g., wildlife habitat) or there may be synergistic impacts from the coal mines and other development (e.g., noxious weeds).

We recommend that the impact sections for resources that are substantially impacted by cumulative impacts be reevaluated to determine how the impacts will overlap in time and for the resource as a whole. For example, does the timing of maximum impact from other activities (e.g., coalbed methane) coincide with the peak of impacts from coal mining? Are any resources impacted by coal mining approaching sustainability limits because of cumulative impact levels? The relationship between project and cumulative impacts might be more easily understood if the FEIS were to combine the Environmental Consequences and Cumulative Impact sections to more clearly disclose the overall condition or impacts on each resource. The following comments explain our concerns in more detail and on a resource specific basis.

10. Groundwater Cumulative Impacts By analyzing coal mining drawdown independently of the larger drawdown predicted from coalbed methane, the EIS predicts a relatively limited number of wells will be impacted by drawdown instead of the large number predicted as a result coalbed methane development. Although the cumulative impacts section eventually discusses these issues, the direct and indirect analysis also needs to reflect the condition of the resource that will be likely during coal mining. The DEIS states that the mine operator would be required to replace water supply wells if they are impacted by mining. However, for wells impacted by coalbed methane, a surface owner and the CBM operator must come to an agreement for water well monitoring and mitigation on a case-by-case basis. How will the obligation for well replacement be implemented for wells that are impacted both by mining and coalbed methane?

11. Cumulative Impacts, Reasonably Foreseeable Future Actions The cumulative impact analysis should include additional coal and energy development activities. The reasonably foreseeable future activities list on page 4-5 only looks at projects with firm plans. However, it is apparent from the history of the area, current trends, existing infrastructure, and coal and other energy reserves; that coal mining and energy development will continue to expand. For example, the 16 active coal mines are in a row from north of Gillette to the David Johnston mine. It appears likely that these mines will continue to grow and fill in some of the area between the existing mines. Given the large areal extent of energy development in this area, there is a strong potential for permanent large-scale impacts for habitat (fragmentation, loss of vital habitat) ground water, riparian ecosystems, wetlands and noxious weeds. Areawide air and water quality impacts will also be significant.

This broader cumulative impact analysis should also factor in the success of reclamation/mitigation plans for various resources. Mining reclamation works well for restoring some aspects of resources such as grazing livestock and wildlife, and visual aesthetics. Other resource values may take a long time to return to a full function or may not be restorable at all (e.g., wetlands, groundwater, unique habitats).

12. Noxious Weeds Noxious weeds are an increasingly difficult problem in the Powder River Basin. It appears that with coalbed methane development, noxious weeds will be an increasingly greater problem. We note in particular that there are already several weeds identified in the grazing section which are on Wyoming's restricted list – poverty weed or on other states' lists of noxious weeds – such as cheatgrass. Especially if the drought continues, this area will be at increased risk of cheatgrass/fire cycles forcing out even more desirable plant species. The FEIS could address what additional mitigation is needed to control the spread of noxious weeds and what types of programs are being developed on an area wide basis to prevent the spread of seeds along roads via mining/construction/drilling equipment.

Wetlands

13. Wetlands Mitigation As noted on page 4-20, Buckskin Mine has completed a wetlands inventory that was approved by the Corps of Engineers in April 2001. According to that inventory, 17.5 acres of jurisdictional wetlands exist within the West Hay Creek LBA analysis area. Since the surface is not federally-owned, the DEIS states that replacement mitigation of jurisdictional wetlands on privately owned surface may occur in accordance with agreements with the private landowners. This infers that mitigation may not take place if it is contrary to the landowners interests. We request that BLM directly assist the Corps to locate suitable replacement wetland sites regardless of the interests of the private land owners so that Federal land might be made available for wetlands replacement if private land is not available for any reason. The wetlands mitigation plan needs to be amended to compensate for the temporal loss, if any, of wetlands values during and following mining. As noted in the DEIS, wetlands obviously cease to function during the 10 to 20 years of mining. However, wetlands fed by groundwater will not regain function until the ground water table recovers. We recommend that additional mitigation be established to compensate for the long-term loss of wetland values. The mitigation plans for previous or current reclamation may provide good

locations for increasing wetlands in the area. Alternatively, the mine may want to improve other wetlands damaged by over grazing, poorly constructed roads or off-road vehicle damage on or off federally-owned lands. If this kind of mitigation is applied, mitigation ratios may need to be as high as 8:1 to compensate for equal values. We also request that all mitigation involve a commitment to perpetual management.

14. Mitigation of Non-jurisdictional Wetlands It is not clear from the DEIS if all non-jurisdictional wetlands impacts will be mitigated. Executive Order 11990 requires that all Federal Agencies protect wetlands. The wetlands protection provisions of E.O. 11990 to apply to all wetlands (i.e., jurisdictional and non-jurisdictional). The second paragraph on page 4-20 discusses playa type wetlands which are no longer be identified as jurisdictional waters. Since these wetlands have sandy soil conditions, standing water does not remain for long periods. The final EIS should also recognize that playas with sandy soils act as important recharge zones. For example, some studies have indicated that recharge into the Ogallala aquifer under playas exceeds three inches per year while recharge in the surrounding uplands occurs at the only .004 to .03 inches per year. The remainder of the paragraph implies that reclamation costs may be a factor in determining whether or not non-jurisdictional wetlands will be restored. There are approximately 7.6 acres of playa features included in the LBA analysis area that are not jurisdictional and therefore not subject to the COE's permit and replacement criteria. The DEIS states that Triton may continue to establish playa features within the reclaimed topography especially if no special segregation of the soils in the existing playas would be needed. Will Triton, or the successful bidder on the LBA, replace these playa features to compensate for their loss and will the company segregate the soils for this purpose? The FEIS should clarify if all non-jurisdictional wetlands will be mitigated.

Wildlife

15. The analysis for wildlife impacts should be based on the habitat needs of the species of concern, rather than the specific boundaries of the mines and lease tracts. There also needs to be sufficient analysis to understand the impacts of the LBA decision. For example, on page 4-24, the DEIS states that there are no sage grouse leks on the West Hay Creek LBA, there are nesting areas in the area and recent sage grouse activity nearby. It is not clear if these nesting areas are important to the sage grouse population or if there are sufficient numbers of leks nearby to sustain the population. By looking at sage grouse habitat on a component by component basis and mainly on LBA and mining properties, the impacts of the LBA decisions are not apparent on the health and sustainability of the grouse population in this area.

**Environmental Protection Agency Rating System for Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

LO -- Lack of Objections

The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC -- Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO -- Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU -- Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 -- Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 -- Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 -- Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

Response to Environmental Protection Agency Letter

In order to respond more accurately to some of your comments, BLM consulted the WDEQ, which has, by statute, the authority and responsibility to implement air quality mitigation in the PRB, as you stated in your cover letter. Both the Air Quality and Water Quality Divisions of WDEQ provided information on their regulatory programs, including monitoring data and mitigation measures, and this information has been used to revise the FEIS in response to your comments.

Responses to Detailed Comments

1. **Air Modeling Discrepancies.** The EIS presents information obtained from two air quality impact analyses prepared for different purposes using different modeling techniques and assumptions. A discussion of the differences between the models and assumptions used for the regional air quality impact analysis and the mine-specific air quality impact analyses in the Wyoming PRB has been added to the FEIS.
 - a. The background concentrations used in each analysis were not selectively chosen to give predictions less than NAAQS. The differences are discussed below and this information has been included in the FEIS.

The WDEQ/AQD air quality permit analyses use a background PM₁₀ concentration of 15 µg/m³, which WDEQ/AQD has chosen as representative of background ambient air quality in the area without activity (i.e., prior to the operation of the coal mine sources). In the WDEQ/AQD air quality permit analyses, potential emissions corresponding to the entire maximum production level from the coal mine undergoing permitting and other coal mines in the area are added to this background concentration, regardless of when the coal mine was permitted or constructed.

The cumulative air quality impact analysis prepared to evaluate the impacts of proposed CBM development in Wyoming and Montana uses a background PM₁₀ concentration of 17 µg/m³, which is a recently monitored value that is used as representative of all sources operating as of a specified date (i.e., prior to the addition of more sources). The 17 µg/m³ background PM₁₀ concentration was monitored in Gillette and is used as the background for the entire PRB, including existing coal mining operations, as of the specified date. The Wyoming and Montana cumulative air quality impact analysis was based on inventorying and modeling impacts from sources permitted and constructed after the date corresponding to the monitored background concentration. Using this approach, only the projected production increases at the coal mines, not the entire permitted production, are included in the Wyoming and Montana cumulative air quality impact analysis.

- b. The Wyoming and Montana cumulative air quality impact analysis includes a combined project area of more than 33,000,000 acres, and focuses on oil and gas and coal bed methane development in northeastern Wyoming and southeastern Montana. That analysis considers other sources in the area, including surface coal mines and sources from adjacent states, on a broad cumulative basis.

The WDEQ/AQD air quality analyses cover much smaller areas (several thousand acres), focus on specific surface coal mining operations at the surface coal mines in the Wyoming PRB, and consider potential overlapping impacts from adjacent surface coal mining operations.

The differences in the air quality analyses methodologies include, but are not limited to:

Different models

- The ISCLT model is used for the WDEQ/AQD air quality permit analyses – annual only
- CALPUFF is used for the Wyoming and Montana cumulative air quality impact analysis

Different emissions inventories for the coal mines

- Total mine production is used for the WDEQ/AQD air quality permit analyses
- Projected production increases after a specified date are used for the Wyoming and Montana cumulative air quality impact analysis

Different mine boundary representations for the coal mines

- The lands necessary to conduct mining (LNCM) boundary is used for the WDEQ/AQD air quality permit analysis
- Representative rectangular areas are used for the Wyoming and Montana cumulative air quality impact analysis

Different background PM₁₀ concentrations (see 4.a. above)

Given these substantial differences in methodology and scope, a direct comparison of the results of these two analyses is probably not meaningful. It is not unexpected that the concentrations predicted by a WDEQ/AQD air quality permit analysis, which is a near-field analysis covering a small area in detail, is higher in localized areas than those predicted by the Wyoming and Montana

cumulative air quality impact analysis, which is a broad cumulative analysis covering a substantially larger area using a different methodology. The EIS includes the methodology and results of the WDEQ/AQD analyses in the “Direct and Indirect Impacts” section for air quality. This section covers the direct and indirect impacts of the action being considered, which is leasing additional coal in a specific tract to an existing mine in the PRB. The discussion of the WDEQ/AQD analysis process has been expanded in the FEIS. The cumulative air quality analysis presented in the “Cumulative Air Quality Impact” section and in appendix E was prepared for the Wyoming *Final EIS and Proposed Plan Amendment for the Powder River Basin Oil and Gas Project* and the Montana *Final Statewide Oil and Gas EIS and Proposed Amendment of the Powder River and Billings RMPs*. These documents will be referred to as the Wyoming Oil and Gas EIS and the Montana Oil and Gas EIS in the following discussions. The cumulative air quality impact analysis represents a much broader estimate of the potential regional air quality impacts as a result of all development in the PRB. This modeled assessment of potential air quality impacts includes a number of assumptions, which are both over- and under-conservative in nature, and it generalizes impacts due to its nature and scope, but it does represent the most comprehensive air quality analysis that has been conducted for northeast Wyoming and southeastern Montana to date.

2. Wyoming DEQ Permit Analysis. The air quality appendix in the EIS pertains to the cumulative impact analysis only and has been labeled accordingly in the FEIS. Additional discussion of the WDEQ/AQD air quality permit analysis process has been added to the air quality discussion in chapters 3 and 4 of the FEIS.
3. Cumulative Impacts Above the PSD Class II Increment. It is not correct to compare the concentrations predicted by the WDEQ/AQD air quality permit analyses to the PSD increments. As indicated in the Regulatory Framework portion of the Air Quality Section of Chapter 3 of the EIS, surface coal mining operations in the PRB are not currently affected by the PSD regulations for two reasons: surface coal mines are not on the EPA list of 28 major emitting facilities for PSD regulation, and point-source emissions from individual mines do not exceed the PSD emissions threshold of 250 tons per year. Fugitive emissions are not included in the definition of potential emissions except for certain specified source types [40 CFR 52.21, (b)(1)(iii)]. Mining related fugitive emissions are exempt from the applicability determination.
4. The discussion has been revised in the FEIS.

Nitrogen Dioxide. According to information provided by WDEQ/LQD, the mines have been able to reduce the number of shots that produce nitrogen dioxide (NO₂) and the amount of NO₂ produced per shot by using different blasting agents, different additives, different initiation systems and sequencing, bore hole liners, and smaller casts blasts. They have not been able to eliminate NO₂ production due to the variety of factors that

can contribute to incomplete combustion of the explosives. Two consecutive blasts using the same product and procedures often produce dramatically different results.

- a. The EIS identifies that there is no short-term exposure standard at either the state or national level for nitrogen dioxide and identifies the NIOSH, OSHA, and EPA short-term exposure criteria. Without an established short-term exposure standard which can be enforced, BLM has not identified a concentration for analyzing risk and developing mitigation that could be implemented by the appropriate regulatory agencies.
 - b. Potential receptors that could be impacted by NO₂ releases related to blasting would include public highways, occupied dwellings, school bus stops, and other publicly accessible facilities. The roads that pass through the LBA area are county roads, although a portion of US 14-16 is located nearby. The locations of public roads, occupied dwellings, school bus stops, and publicly accessible facilities in the area are shown in figure 3-17 in the FEIS.
 - c. Many of the mines in the Wyoming PRB have instituted voluntary measures to reduce the risk of public exposure to intermittent, short term releases of NO₂ when large blasts are planned, and WDEQ has required several mines to institute additional such measures. These measures, as well as the some of the blasting procedures that some of the mines have been using to try and reduce NO₂ emissions during blasting, are described in the FEIS in the air quality section of chapter 3.
5. Safe Concentrations of Nitrogen Dioxide. As discussed above, the FEIS includes the short-term exposure criteria identified by NIOSH, OSHA, and EPA, but recognizes that there is no short-term numerical exposure standard for NO₂ at either the federal or state level. According to WDEQ/LQD, with one exception, the mitigation measures being implemented in the PRB are not dependent on a numerical standard, but are administrative controls designed to prevent NO₂ from reaching receptors. The exception is the Eagle Butte Mine, which is required to use a set back distance that is based on a numerical exposure limit.
 6. Nitrogen Dioxide Concentrations. The Wyoming Mining Association Study that is summarized in the West Hay Creek EIS was designed to monitor NO₂ levels in publicly accessible areas and, accordingly, sites were selected for this study based on public accessibility and proximity to mining activities. The Black Thunder study referenced in your comment letter was designed to collect NO₂ concentration data for a modeling study and, accordingly, the monitors were located as close to the blasts as feasible in order to collect the necessary data. These locations were in areas that are both inaccessible to the public and cleared of employees during blasting activities. The actual NO₂ measurements recorded in the Black Thunder study ranged from non-detectable to 21.4 ppm. The high value was measured 361 feet from the blast. In the FEIS, this discussion has been expanded to include more information and to clarify the differences between

the two blasting studies and to discuss some of the changes in nitrogen dioxide emissions since the mines began developing new blasting methods.

7. Affected Environment for Nitrogen Dioxide Emissions. The locations of public highways, occupied dwellings and school bus stops in the area of the LBA tract are shown in figure 3-17 in the FEIS. As indicated in the EIS, phone notification of workers and neighbors prior to blasting is both a voluntary and required measure that some mines have implemented when large blasts are planned. This includes occupants of nearby residences. WDEQ/LQD requires some mine operators to close public roads when blasting operations occur nearby, mainly for issues such as fly rock and the startle factor.
8. Mitigation for Nitrogen Dioxide Emissions. The voluntary measures that some mines have instituted to ensure that the general public is not exposed to NO₂ as a result of blasting activities are not part of the mining and reclamation permits for these mines. WDEQ/LQD has pursued voluntary measures in order to allow operators to develop new mitigation measures that can be effectively used to address the problems. The mines can choose to discontinue the voluntary measures. However, exposure of the public to blasting clouds containing NO₂, with or without voluntary control measures, will trigger enforcement action, including permit requirements designed to control public exposure to NO₂ by the WDEQ/LQD. Several mines in the basin currently have permit requirements designed to control public exposure to NO₂ as a result of past reports of public exposure to blasting clouds from those mines. Those mines are required to monitor weather conditions before blasting and close roads when appropriate to protect the public

The BLM does not authorize mining operations by issuing a lease and BLM is not authorized to approve the mining and reclamation plan, which does regulate how mining operations are conducted on the federal leases. BLM does not attach stipulations designed to regulate how mining operations are conducted to lease documents because:

- a) such stipulations would not be effective or enforceable since the lease document does not authorize or regulate mining operations;
- b) there are federal and state regulations in place that do direct how surface coal mining operations will be conducted on federal and nonfederal coal leases and there are agencies that are authorized to enforce those regulations. Specifically, as discussed in the "Regulatory Authority and Responsibility" section of the EIS, SMCRA gives the authority for administering programs that regulate surface coal mining operations and surface effects of underground coal mining operations to the OSM. In Wyoming, WDEQ has entered into a cooperative agreement with the Secretary of the Interior to regulate surface coal mining operations and

surface effects of underground mining on nonfederal and federal lands within the state;

- c) lease stipulations are specific to the federal lease to which they are attached. Mining operations for a single mine can and generally do occur on multiple federal and nonfederal leases as well as on areas within the mining permit that are not leased for coal removal but may be disturbed as a result of mining operations. The mining and reclamation permit applies to the entire mining operation; and
- d) stipulations attached to a specific lease cannot readily be changed to incorporate new information or better technology. Stipulations on federal coal leases can only be changed when the lease is readjusted, which is every 20 years. A mining and reclamation permit applies to the entire mining operations and must be renewed periodically, at which time new information and mitigation measures can be incorporated.

Cumulative Impacts

9. Direct and Indirect Impact Analysis vs. Cumulative Impacts. The cumulative air quality, surface water, and groundwater impact analyses were prepared for the Wyoming Oil and Gas EIS and/or the Montana Oil and Gas EIS, but potential impacts from approved surface coal mining activities were considered in those analyses. The Wyoming and Montana Oil and Gas EIS analyses were designed to consider the estimated timing of maximum overlapping impact from CBM development, which will peak during the time of maximum drilling activity, with ongoing surface coal mining activities, which have been and are predicted to continue to increase gradually. In the case of the West Hay Creek EIS, the action that BLM is considering approving is leasing the federal coal resource to an existing mine in the Wyoming PRB. Adding new acreage to an existing mine does not result in the introduction of new impacts; it extends impacts that are already occurring. In the case of the West Hay Creek LBA tract, the applicant does not propose to increase production beyond the currently permitted level. BLM recognizes that the direct and indirect impacts predicted in the EIS may be altered by changes to some of the resources as a result of other activities.

When BLM began analyzing the impacts of leasing federal coal under the regulations at 43 CFR 3425 (Leasing on Application) in the Wyoming PRB, a conscious decision was made to separate the discussion of predicted direct and indirect impacts to resources from the discussion of predicted cumulative impacts to resources in order to differentiate between the two analyses, and to ensure that we considered each in our leasing documents. We agree that it could be beneficial to eliminate the duplication and confusion that results from discussing each resource separately in the affected environment, direct and indirect impact, and cumulative impact sections.

10. Groundwater Cumulative Impacts. The federal action that is being analyzed in this EIS is leasing of the federal coal included in the West Hay Creek LBA tract, under the assumption that, if the coal is leased, it will be mined by the adjacent existing Buckskin Mine. The intent of the direct and indirect impact analysis in the EIS is to disclose the direct and indirect impacts of leasing and mining the federal coal in the tract. If that action is not approved, there may be impacts to groundwater as a result of other activities, which are disclosed in the cumulative impact section of the EIS. They will not be a direct or indirect result of approval of the action being considered in this EIS.

According to WDEQ/LQD, coal mines are required to replace water supply wells if the mine activities have impacted the well to the extent that the well no longer fulfills its intended purpose. When water wells have been impacted by both coal mining operations and CBM development, WDEQ/LQD's approach is to try and determine the amount of impact caused by the mining operation. The mine's responsibility for replacement of the well depends on the amount of impact caused by the mine. There have been cases where both the mine and the CBM operator have shared in the cost of replacing a water supply well.

11. Cumulative Impacts, Reasonably Foreseeable Future Actions. The purpose of an EIS is to disclose the potential impacts of a specific proposed federal action so that a decision maker can make an informed decision. That decision should consider the potential impacts of a proposed project when combined with other reasonably foreseeable development in an area. The West Hay Creek EIS cumulative impact analysis includes the projects that BLM has identified as reasonably foreseeable. The analysis assumes increases in coal production based on existing approved mining and reclamation permits and proposed changes in those permits. Assumed levels of CBM production are based on the Wyoming and Montana oil and gas EISs, which is the best available estimate of the levels of CBM and conventional oil and gas development for the next 10 years. Other projects are considered based on their likelihood of completion.

There are currently 13 active and 2 inactive existing mines located in three groups or pods that extend from north of Gillette, Wyoming, to south of Wright, Wyoming. One group of mines is located north and northeast of Gillette, one group of mines is located between Gillette and Wright, and the third group of mines is located east and south of Wright. [The Dave Johnston Mine referenced in your comments, which is located much further south (near Glenrock, Wyoming), has ended mining operations, and is now in the process of reclaiming areas of disturbance.] It is likely that existing mines within the three groups will continue to lease coal adjacent to their existing operations if the coal in those areas can be economically recovered and sold. It is not likely that the area between the groups of mines will be filled in because the coal deposits do not form one continuous thick mineable unit stretching from north of Gillette to south of Wright. The coal splits into thinner beds and the quality of the coal deteriorates in the areas between these groups of mines. That is why there are no existing mines in those

areas and why the existing mines are not leasing in those areas, even though the overburden in those areas is thinner than the overburden in the tracts that have been applied for, which would make the coal much more economical to recover. When it was active, the Dave Johnston mined coal from entirely different, younger coal beds.

BLM has started work on a two-year technical study to assess current coal development, develop projections of expected future development, and develop data and modeled projections of the effects of projected surface coal mining in the Wyoming PRB for use in evaluating the impacts of leasing and mining the two remaining pending LBA tracts. Briefings on this study were held for state and federal agencies, including EPA and WDEQ, in November 2003. Please contact Mike Karbs with the BLM Casper Field Office for more information on this study.

12. Noxious Weed Control. The “Vegetation” section of the cumulative impact analysis has been expanded to describe measures that are being required outside of the coal mine permit area to address noxious weeds. A plan for controlling noxious weeds is included in the mining and reclamation plan permit for each mine, including the Buckskin Mine, as discussed in the EIS.
13. Wetlands Mitigation. To the extent that the 17.5 acres of jurisdictional wetlands identified on the LBA tract analysis area would be affected by mining, the COE would have to approve a wetland mitigation plan prior to approval of the surface coal mining and reclamation permit revision for the West Hay Creek LBA tract. COE requires mitigation of all impacted jurisdictional wetlands in accordance with section 404 of the Clean Water Act, and determines the number of acres to be restored. COE considers the type and function of each jurisdictional wetland that will be impacted and may require restoration of additional acres if the type and function of the restored wetland will not completely replace the type and function of the original wetland. The wetland mitigation plan approved by COE becomes part of the WDEQ mining permit.
14. Mitigation of Nonjurisdictional Wetlands. Restoration of nonjurisdictional wetlands is not regulated by COE under section 404 of the Clean Water Act. Replacement of nonjurisdictional wetlands may be required by the surface management agency, if the surface estate is federally owned, or by the surface owner, if the surface estate is not federally owned. BLM requires restoration of all impacts to wetlands on BLM-administered surface; however, there is no BLM-administered or other federally-administered surface estate included in the West Hay Creek LBA tract, or in this area. WDEQ/LQD requires the restoration of some nonjurisdictional wetlands, depending on the values (importance to wildlife) associated with the wetland. WDEQ requires restoration of playas if they have hydrologic significance. Additional discussion of nonjurisdictional wetlands mitigation has been included in the FEIS.

15. Additional information has been added to the discussions of sage grouse and other species in the wildlife sections of the FEIS.